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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO
10/723,042	11/26/2003	Jinchun Xie	NLP-0202-US	7827
75	90 03/06/2006	EXAMINER		
Michael D. Van Loy			WINAKUR, ERIC FRANK	
Skymoon Research and Development, LLC Intellectual Property Department			ART UNIT	PAPER NUMBER
3045 Park Boulevard			3735	
Palo Alto, CA 94306			DATE MAILED: 03/06/2006	

Please find below and/or attached an Office communication concerning this application or proceeding.

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		Application No.	Applicant(s)			
Office Action Summary		10/723,042	XIE, JINCHUN			
		Examiner	Art Unit			
		Eric F. Winakur	3735			
Period fo	The MAILING DATE of this communication a or Reply	appears on the cover sheet wi	th the correspondence address			
A SH WHIC - Exte after - If NC - Failu Any	ORTENED STATUTORY PERIOD FOR REF CHEVER IS LONGER, FROM THE MAILING insions of time may be available under the provisions of 37 CFR SIX (6) MONTHS from the mailing date of this communication. O period for reply is specified above, the maximum statutory perior are to reply within the set or extended period for reply will, by state reply received by the Office later than three months after the ma- led patent term adjustment. See 37 CFR 1.704(b).	DATE OF THIS COMMUNIO 1.136(a). In no event, however, may a r od will apply and will expire SIX (6) MON tute, cause the application to become AB	CATION. eply be timely filed ITHS from the mailing date of this communication. BANDONED (35 U.S.C. § 133).			
Status						
1)	Responsive to communication(s) filed on	·				
2a) <u></u>	This action is FINAL . 2b) This action is non-final.					
3)	☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is					
	closed in accordance with the practice unde	er <i>Ex par</i> te Quayle, 1935 C.D	. 11, 453 O.G. 213.			
Disposit	ion of Claims					
4)⊠	Claim(s) 1-20 is/are pending in the application	on.				
	4a) Of the above claim(s) is/are withdrawn from consideration.					
5)	Claim(s) is/are allowed.					
•	Claim(s) <u>1-20</u> is/are rejected.					
· ·	Claim(s) is/are objected to.	dia alastia associas associ				
8)[_]	Claim(s) are subject to restriction and	a/or election requirement.				
Applicat	ion Papers					
9)[The specification is objected to by the Exami	iner.				
10)[The drawing(s) filed on is/are: a) a	ccepted or b) objected to	by the Examiner.			
	Applicant may not request that any objection to the	* ' '				
44)[]	Replacement drawing sheet(s) including the corre	,	•			
' ')	The oath or declaration is objected to by the	Examiner. Note the attached	1 Office Action of John PTO-152.			
Priority (under 35 U.S.C. § 119					
•	Acknowledgment is made of a claim for foreign All b) Some * c) None of: 1. Certified copies of the priority docume		119(a)-(d) or (f).			
	Certified copies of the priority docume		pplication No.			
	3. Copies of the certified copies of the pr					
	application from the International Bure	eau (PCT Rule 17.2(a)).	·			
* (See the attached detailed Office action for a li	ist of the certified copies not	received.			
Attachmen	ut(s)					
	ce of References Cited (PTO-892)		Summary (PTO-413)			
3) 🛛 Infor	ce of Draftsperson's Patent Drawing Review (PTO-948) mation Disclosure Statement(s) (PTO-1449 or PTO/SB/0 er No(s)/Mail Date <u>2/22/05 & 6/24/05</u> .		s)/Mail Date nformal Patent Application (PTO-152) 			

DETAILED ACTION

Claim Objections

- 1. Claim 2 is objected to because of the following informalities: With regard to claim
- 2, the claim should end with a period. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- 3. Claims 1 6 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Clarke et al. (USPN 5,222,496 cited by Applicant). Clarke et al. teach an infrared glucose sensor that includes an illumination source, a detector array, and an analyzer (Figure 1). In regard to claim 1, the fingernail is a suitable location (column 3, lines 55 58). In regard to claim 6, a wavelength of 1600 nm is used (column 3, lines 33 40). In regard to claim 14, reflection absorption spectroscopy is performed.
- 4. Claims 1, 5, 8 10, 12, 16, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Wach et al. (USPN 6,370,406 cited by Applicant). Wach et al. teach a method and device that uses light delivery and collection fibers (column 53, lines 9-11) and Stokes-shift Raman analysis (column 52, lines 52-67) on a fingernail (column 54, lines 1-6) to determine chemical concentration (column 2, lines 45-50). In regard to claim 8, laser-Raman spectroscopy is performed (column 52, lines 28-30). In regard to

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claims 9-10 and 16-17, a gel and window in the form of a mating surface is disclosed (column 52, lines 64-67 and column 54, lines 1-6).

- 5. Claims 1 6 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Aldrich (USPN 6,064,898 cited by Applicant). Aldrich teaches illuminating tissue beneath a nail using an illumination source 22, collecting the radiation using a photodetector 30, and analyzing the collected information using a microprocessor to determine various analytes, such as glucose. (Fig. 1). In regard to claim 6, various wavelengths can be used (column 6, lines 49-57). In regard to claim 11, multivariate regression analysis is used (column 11, lines 10-21 of Aldrich).
- 6. Claims 1 5 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Misner et al. (USPN 6,222,189 cited by Applicant). Misner et al. teach illuminating tissue below a nail using a light source 20, detecting the light with detector 22, and analyzing the radiation to determine a blood constituent, such as glucose. (Abstract, Fig. 2, and column 1, lines 39-46). In regard to claim 13, pressure is applied. (Abstract, Fig. 2, and claim 1).

Claim Rejections - 35 USC § 103

- 7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 8. Claims 16, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clarke et al. in view of Wach et al. Clarke et al. teaches a glucose

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sensor as described in paragraph 3 above. Further, Clarke et al. teach a laminar structure that includes a film 51 (Fig. 3A), but does not teach windows with coupling gel. Wach et al. teach that windows and gel maximize coupling efficiency (column 52, lines 64-67 and column 54, lines 1-6). Therefore it would have been obvious to one with ordinary skill in the art at the time of the invention to use the windows and gel of Wach et al. in the invention of Clarke et al. since the windows and gel maximize the coupling efficiency.

- 9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aldrich as applied to claim 1 above, and further in view of Jobsis (USPN 4,281,645 cited by Applicant). Aldrich teaches that lasers can be used (column 6, lines 13-17), but does not teach the particular lasers set forth in the claim. Jobsis teaches a CW laser that would fulfill the requirements of providing lasers as set forth by Aldrich. (column 19, lines 25-33). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the CW laser of Jobsis in the invention of Aldrich since Aldrich teaches that lasers can be used and Jobsis teaches such lasers.
- 10. Claims 1 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boppart et al. (USPN 6,485,413 cited by Applicant) in view of Aldrich. Boppart et al. disclose a method for determining an analyte concentration within a tissue, which comprises operating an OCT imaging system consisting of generating an optical source, directing radiation to the sample, directing radiation to a reference mirror, and processing the returned signals (Fig. 1). Boppart et al. teaches that the method is used to determine solute, gas, and metabolite concentrations in organs, lumens, support

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structures, or free space (column 36, lines 4-39). Boppart et al. teach that any external region of the human body can be analyzed (column 19, lines 11-17). Aldrich teaches that the finger and fingernail are suitable locations (Fig. 1). Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to use the invention of Boppart et al. on the finger and fingernail since Boppart et al. teach that any external region of the human body can be analyzed and Aldrich teaches one such external region.

11. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Misner et al. in view of Lepper, Jr. et al. (USPN 5,743,262 - cited by Applicant). Misner et al. teach illuminating tissue below a nail using a light source 20, detecting the light with detector 22, and analyzing the radiation to determine a blood constituent, such as glucose. (Abstract, Fig. 2, and column 1, lines 39-46). In regard to claim 13, pressure is applied. (Abstract, Fig. 2, and claim 1). Misner et al. do not teach means for focusing the beam, but Lepper et al. teach that such focusing is desirable in blood glucose sensor systems (column 6, lines 21 - 23). It would have been obvious to one of ordinary skill in the art at the time of the invention to use focusing means of Lepper et al. in the invention of Misner et al. since such focusing is desirable in blood glucose systems.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric F. Winakur whose telephone number is 571/272-4736. The examiner can normally be reached on M-Th, 7:30-5; alternate Fri.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia Bianco can be reached on 571/272-4940. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Éric F Winakur Primary Examiner Art Unit 3735

2 March 2006